

DISCUSS TYPES OF FLIGHTS PERFORMED BY CAP AIRCREWS

CONDITIONS

You are a Mission Pilot trainee and must discuss the types of flights performed by CAP aircrews.

OBJECTIVES

Discuss the types of flights performed by CAP aircrews.

TRAINING AND EVALUATION

Training Outline

1. As a Mission Pilot trainee, knowing the types of flights that CAP aircrews perform is essential. CAPR 60-1 covers the types of flights for CAP aircraft, but we want to look at a few of these in a little more detail.

Note that per CAPR 60-1, the minimum flight visibility for VFR flight in Class G airspace is three statute miles (unless the PIC is instrument current), and you must update altimeter settings hourly from the closest source.

2. *Transportation flights.* Always consult CAPR 60-1, Chapter 2 (Authorized Passengers) when you need to know who is authorized to fly as passengers in CAP aircraft and the conditions under which they are authorized to fly.

As a general rule, anyone other than CAP or US government employees need special permission to fly in CAP aircraft. All non-CAP members eligible to fly aboard CAP aircraft must execute a CAPF 9, *Release (for non-CAP Members)*, prior to the flight.

3. *Night flights.* Typical sorties flown at night are transport sorties, route searches, and DF searches (it seems these are always flown at late at night). CAPR 60-1 requires pilots to maintain a minimum of 2000' AGL at night (except for takeoff/landing or when under ATC control). During night over-water missions, both front-seat crewmembers must be CAP qualified mission pilots and both will be instrument qualified and current (the right-seat pilot need not be qualified in the specific aircraft).

As a minimum, the PIC should be night-current in the aircraft (category, class and type) you're going to fly and assure the required one-hour fuel reserve required by CAPR 60-1. When performing night searches it is preferable to have an experienced crew accompanying the pilot to assist in situational awareness and search procedures.

Night time route searches will only be successful if the downed aircraft or missing person has the capability to signal the aircraft or if an ELT has been activated. Usually, ground team searches near the LKP or intended airport stand a better chance of success. No CAP crewmember may use night vision devices during any flight operations.

The most important item when planning night sorties is the PIC. Flying at night requires more attention to preflight planning and preparation. In particular, a careful check of the weather is essential; probably the most significant problem that can occur at night is flying into weather you cannot see. Also, pay attention to the dew point spread as a predictor of fog. During the flight, maintain situational awareness and always know where you can land in an emergency.

Before you accept the mission, ask yourself a few questions:

- a. If all the night flying you have had in the last 90 days are your three takeoffs and landings, are you really proficient?
- b. How long has it been since you've done a night cross-country?
- c. How long has it been since you've done a night ELT search?
- d. If you are Instrument rated, how many approaches have you done at night lately?
- e. How familiar are you with the terrain and obstacles along the route?
- f. Since landing lights only fail at night, when was the last time you practiced landing without the landing light?
- g. Have you included all your flashlights in the weight-and-balance?

Remember that confidence is gained by experience, so you should include night flying in your proficiency regimen. You should also include periodic DF training at night.

4. *IMC flights.* CAP sorties are very seldom flown in IMC. The most common reason for an IFR flight is to transport personnel to a search area or mission base. However, it is possible to conduct a route search in IMC. If an aircraft was lost while on an IFR flight plan, a sortie may be launched along the same route with the hope of picking up an ELT signal. This approach may also be taken, with careful planning and close coordination with ATC, for aircraft lost outside prescribed IFR routes.

It is also possible to DF in IMC, but this can be dangerous and is not to be undertaken lightly. Per CAPR 60-1, IFR flights will not depart unless the weather is at or above landing minimums at the departure airport.

In any case, a few extra precautions are in order:

- a. The pilot must have completed section XIV, "Instrument Proficiency" on her Form 5.
- b. The PIC must meet FAA instrument flight proficiency requirements.
- c. The PIC should be proficient in instrument flight in the CAP aircraft to be used.
- d. For any flight other than a simple IFR transportation flight, it is highly recommended that another current and proficient Instrument-rated pilot be in the right seat. *Never* fly a search alone in IMC.
- e. Never fly an instrument search when ground teams are appropriate and available for the search.

5. *Video Imaging.* More and more, we are performing aerial reconnaissance for our partner agencies. We primarily take still photos (digital and 35mm) and video (analog and digital), and may use Slow Scan video. The mission pilot must know how to fly these missions. As SAR missions decline and the phase-out of 121.5 MHz ELTs begins, video imaging will become one of CAP's most valuable assets.

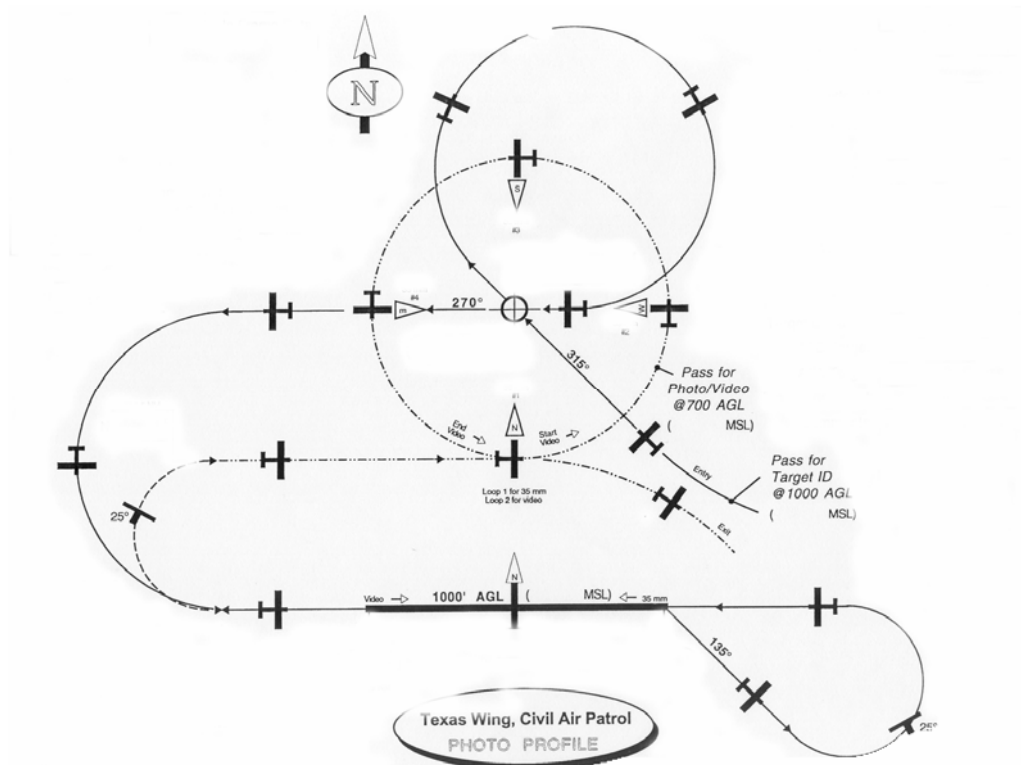
Emergency response planners expect more timely information about developing situations. These planners recognize real-time and near real-time images as an invaluable tool.

Regardless of the type of video imaging mission, there are some basics that everyone involved in the mission need to know to ensure success. The following presents the extra essentials needed for a video mission briefing:

- a. Make sure each crewmember knows what the target is and what types of images are needed. For example, a sortie may require a digital still shot of the target area for orientation, followed by a recorded video to detail egress points.
- b. Ensure the target location is identified so that you can find it.
- c. Thoroughly brief the route to and from the target, and the flight patterns within the target area. Mark them on the appropriate sectional chart and maps (e.g., road or topographical).
- d. Ensure minimum altitudes are established, both for the routes to and from the target and in the target area.
- e. Ensure all communications frequencies are well understood. This is particularly important for Slow Scan sorties.

- f. Define the duties of the PIC and the photographer when in the target area. The photographer will actually be in command of the mission and will give directions to the pilot, but the PIC retains responsibility for the safe operation of the aircraft.
- g. Ensure video equipment batteries are fully charged and that extra batteries are available.
- h. Clean the aircraft windows. If the video will be shot from the front right seat (normal), remove the window latch screw and put it in a safe place.
- i. For Slow Scan sorties, make sure the equipment is secured and properly connected. Make a test transmission before you leave the ramp.

The customer sometimes defines *video imaging flight profiles*, but a typical profile is shown and discussed below:



As the aircraft approaches the target the photographer should alert the pilot and prepare to begin photographing the target. You may need to over-fly the target first for positive identification. Assume the photographer is in the right front seat.

The first step is to take an identification photo, usually one mile south of the target from an altitude of 1000' AGL. The photographer will begin shooting as soon as the aircraft is established on this easterly route. If another pass is needed, the pilot will circle around to repeat the route.

Next the pilot will turn toward the target, descend to 500' AGL and establish a 1/2 nm circuit around the target. The photographer will be taking shots at the cardinal points of the circle, or continuously if using video. This circuit may be enlarged to fit the target area or if it is important to identify entrance and egress routes near the disaster area.

During slow-scan sorties it may be necessary to climb to a higher altitude to transmit each image.

NOTE: Never hesitate to make another pass or move to a better position if necessary to ensure the success of the sortie. Film (especially digital) is cheap and flight time is expensive; it is better to make another pass or reposition the aircraft at the scene than it is to send another aircraft back to repeat the mission.

6. *Proficiency.* CAPR 60-1 encourages pilots to maintain currency and proficiency by accomplishing a self-conducted proficiency flight at least once every 90 days (described in an Attachment, and using mission symbol C1). More specifically, mission pilots are authorized four hours of proficiency flight training per calendar month under Air Force-assigned non-reimbursed mission status (described in an Attachment, and using mission symbol B12).

When practicing in-flight emergencies, adhere to the restrictions in CAPR 60-1.

As the demands on the CAP mission pilot increase, the need to maintain and improve your mission skills becomes more important. Besides the guidance given in the CAPR 60-1 Attachments, you should also practice:

- a. Search patterns. Use the GPS as your primary tool but also practice planning and flying the different patterns using VORs and pilotage.
- b. Night proficiency. Practice search patterns at night (particularly the ELT search).

As part of your cross-country proficiency, practice with the GPS:

- a. Maintain a constant track over ground.
- b. Select/display a destination: Airport, VOR and User Waypoint.
- c. Determine heading, time and distance to a waypoint.
- d. Save lat/long coordinates as a User Waypoint.
- e. Save your present position as a User Waypoint.
- f. Enter and use flight plans.
- g. Exercise the nearest airport and nearest VOR features.
- h. Practice navigating with present position displayed (constant lat/long display).
- i. Always try to take someone along with you on your proficiency flights. This will provide excellent practice for scanners and observers, helps improve CRM and teamwork, and makes the flights more enjoyable. [Remember, if you are going to be practicing instrument approaches you must use a safety pilot. It is also preferred to have one during your night practice, although a qualified non-pilot observer will serve just as well.]

Additional Information

More detailed information on this topic is available in CAPR 60-1 and in Chapter 12 of the Mission Aircrew Reference Text (MART).

Evaluation Preparation

Setup: Provide the student with a current copy of CAPR 60-1 and the MART.

Brief Student: You are a Mission Pilot trainee asked about the types of CAP flights.

Evaluation

Performance measures

Results

1. Concerning types of CAP flights, discuss:

- | | | |
|---|---|---|
| a. Transportation. | P | F |
| b. Night. | P | F |
| c. IMC. | P | F |
| d. Video imaging, including the typical flight profile. | P | F |
| e. Proficiency. | P | F |

Student must receive a pass on all performance measures to qualify in this task. If the individual fails any measure, show what was done wrong and how to do it correctly.